

REMARKS

This is in response to the Non-Final Office Action mailed March 28, 2007, in which the Examiner rejected all the pending claims. Applicant respectfully requests reconsideration of the application.

In this response, claim 7 is amended to recite that the coating composition has a weight ratio of polyether-polyurethane resin to polyester-polyurethane resin in the range of 1:1 to 3:1. Support for this amendment may be found in original claim 11 and in the specification in paragraph [0022] and in Example 1. Claim 11 is cancelled herein. Claims 1-6 and 14-20 have previously been cancelled. After entry of the amendments, claims 7-10 and 12-13 are pending.

Double Patenting

The Examiner provisionally rejected claims 7, 12, and 13 on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 1, 4, and 5 of copending Application No. 11/625,394 (the '394 application). The rejection is only a provisional rejection because the claims in the '394 application have not been patented. Upon receiving an indication from the Examiner of allowable subject matter in this application or in the '394 application, Applicant will file a terminal disclaimer.

Rejections Under 35 U.S.C. 103(a)

A. Rejections based on Rhoades and Eckell

The Examiner rejected claims 7-13 as being unpatentable over U.S. Patent No. 5,082,824 to Rhoades in view of U.S. Patent No. 4,599,293 to Eckell. The Examiner contends that Rhoades discloses a dye transfer coating comprising water dispersible polyether-polyurethane or polyester-polyurethane. The Examiner acknowledges that Rhoades does not teach a combination of such resins but contends that it would have been obvious to provide a mixture of such resins in view of Eckell. The Examiner also acknowledges that Rhoades fails to teach the ratio of polyether-polyurethane relative to polyester-polyurethane but that it would be obvious to optimize such a result effective variable. Applicant respectfully traverses the rejection.

Rhoades is directed to a thermal transfer printing receiver that includes a substrate, a dye receptive receiving layer, and a release medium associated with the dye receiving layer. The release medium is the reaction product of an organic isocyanate, an isocyanate-reactive polydiakylsiloxane, and a polymeric alcohol. (Rhoades, Abstract.) The preferred polymeric alcohol is a polycarbonate, and all the examples in Rhoades employ a polycarbonate-silicone-urethane resin. (Rhoades, column 5, lines 39-41, and Examples 1-9.)

Eckell is directed to a toner transfer film that may be utilized for transferring and subsequently fixing toner images from an electrophotographic or electroradiographic recording material. Eckell's toner transfer film consists essentially of a clear transparent base and a layer anchored to the base that is capable of picking up the toner image. The layer capable of picking up the toner image consists essentially of one or more polymeric binders, one or more ethylenically unsaturated compounds that are polymerizable by free radicals, one or more polymerization initiators, and optionally conventional additives. Eckell discloses polyester-urethane resins and polyether-urethane resins in an extensive list of resins that includes nylons, polyurethanes, saturated and unsaturated polyesters, styrene polymers, acrylate ester polymers, methacrylate-ester polymers, and polyvinyl alcohol. Eckell discloses polyester resins, acrylate resins, and styrene resins as preferred resins, and the examples employ acrylate resins. Eckell does not disclose an aqueous dye receiving coating composition but is directed to an organic solvent based composition in which the components are dissolved in solvents such as ethyl acetate acetone, methylene chloride, ethylene chloride, chloroform, tetrahydrofuran, dioxane, toluene, xylene, butylglycol acetate and the like. (Eckell, column 8, line 55 through column 9, line 3.)

To render a claim obvious, the prior art references, when combined, must teach or suggest all the claim limitations. (MPEP §§ 2143, 2143.03.) Further, while a range of components may be obvious as obtainable through routine optimization, only result-effective variable may be optimized, and a particular parameter must be recognized in the art as a result-effective variable. (MPEP § 2144.05.) Claims are not proved obvious merely because each element was

independently known in the art. (*KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1741 (2007).) Rather, a finding of obvious must be supported by some articulated reasoning with some rational underpinning to support that conclusion. (*In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006).)

The claims are not obvious in view of Rhoades and Eckell. Amended claim 7 recites that the aqueous coating composition includes (a) a water dispersible aliphatic polyether-polyurethane resin, and (b) a water dispersible aliphatic polyester-urethane resin wherein the weight ratio of (a) to (b) is in the range of 1:1 to 3:1. As the Examiner acknowledges, Rhoades fails to teach or suggest the combination of a polyether-urethane and a polyester-urethane. Eckell discloses an extensive list of possible components for its polymeric binder. But the mere fact that Eckell discloses that its toner transfer film may include mixtures of polymeric binders does not recognize that a particular combination of materials of a particular ratio of materials from that extensive list is a result effective variable. The examples in Rhoades all use a polycarbonate urethane, and the examples in Eckell employ an acrylate or styrene based polymer. Neither Rhoades nor Eckell discloses any particular combination of resin materials let alone any specific ratios. Thus, neither Rhoades nor Eckell recognizes the ratio of polyether-urethane to polyester urethane as a result effective variable. Therefore, the claimed invention cannot be said to result from the mere routine optimization of a result effective variable. Rather, it is only through prohibited hindsight in view of Applicant's disclosure that a person skilled in the art would arrive at the claimed invention. Consequently, claim 7 and any claims dependent therefrom are not obvious in view of Rhoades in combination with Eckell.

For at least these reasons, Applicant respectfully requests that the rejection be withdrawn.

B. Rejection Based on Ramello and Eckell

The Examiner rejected claims 7-8 and 10-13 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,529,972 to Ramello et al. in view of Eckell. Applicant respectfully traverses this rejection.

Ramello is directed to a thermal dye transfer material that includes a dye receiving layer. The dye receiving layer is an aqueous dispersion that includes a dye-accepting latex selected from polyurethane latices, styrene-butadiene latices, polyvinylacetoversatate latices, and styrene-acrylic latices.

The claims are not obvious in view of Ramello and Eckell. As the Examiner acknowledges, Ramello also fails to teach or disclose a composition that is the combination of a polyether-urethane and a polyester-urethane. There is nothing in Ramello that discloses or recognizes the combination of polyether-urethane and polyester-urethane or the ratio of polyether-urethane to polyester urethane as a result effective variable. As discussed above, Eckell does not make up for this deficiency, and the Examiner has not articulated a reason why a person skilled in the art would recognize this combination as a result effective variable. Therefore, neither the combination of these components nor the particular ratio of a polyether-urethane to polyester-urethane is obvious based on Ramello and Eckell. Rather, it is only through prohibited hindsight that a person skilled in the art would arrive at the claimed invention.

Ramello also demonstrates that a person skilled in the art would not look to the teachings of Eckell for assistance or guidance in the technology of aqueous dye receiving coatings. Example 1 of Ramello compares aqueous dispersions of a polyurethane to organic solvent dispersions and demonstrates that aqueous dispersions provide better results as it relates to color difference and hue difference. Based on this disclosure, a person skilled in the art would not have a reasonable expectation of success to modify technology that relates to organic solvent dispersions, such as Eckell, for use in aqueous dye receiving coatings.

For at least these reasons, claim 7 and any claims dependent therefrom are not obvious in view of Ramello in combination with Eckell. Applicant respectfully requests that the rejection be withdrawn.

C. Rejections Based on Ramello, Eckell, and Rhoades

The Examiner rejected claims 7 and 9 under 35 U.S.C. 103(a) as being unpatentable over Ramello in view of Eckell and further in view of Rhoades. The Examiner contends that it would be obvious to modify Ramello and Eckell with a polyfunctional aziridine as disclosed in Rhoades. Applicant respectfully traverses this rejection.

As discussed above, claim 7 is not obvious in view of either Rhoades and Eckell or Ramello and Eckell. For the reasons discussed above, claim 7 is also not obvious in view of Ramello, Eckell, and Rhoades. In particular, it would not be obvious to modify those references to arrive at an aqueous dye receiving coating comprising (a) a polyether-urthane and (b) a polyester-urethan with the recited ratio of (a) to (b). The art does not recognize this ratio as a result effective variable and this ratio cannot be said to be the result of routine optimization. Claim 9, which recites a crosslinking agent comprising a polyfunctional aziridine, depends from claim 7. Since claim 7 is not obvious in view of Ramello, Eckell, and Rhoades, claim 9 is also not obvious. (See MPEP § 2143.03.) Applicant respectfully requests that the rejection be withdrawn.

CONCLUSION

In view of the foregoing amendment and remarks, Applicants respectfully request reconsideration and a timely issuance of a notice of allowance for claims 7-13.

In the event any fees are due in connection with the filing of this document, the Commissioner is authorized to charge those fees to our Deposit Account No. 18-0988 under Attorney Docket No. AVERP3525USB.

Respectfully submitted,

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